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EXAMINER	
WALLENHORST, MAUREEN	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/779,422	WOLLENBERG, ROBERT H.	
	Examiner	Art Unit	
	Maureen M. Wallenhorst	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-9,11-27,29-33 and 35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11-14* is/are allowed.

6)☒ Claim(s) *1-4,6-9,15-27,29-33 and 35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/8/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 35 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Amended claim 35 recites that "non-oxidized" deposit formation is measured in each sample, wherein the deposit formation is associated with a selected part of or an entire running internal combustion engine. These new limitations in claim 35 represent new matter since nowhere in the specification, as originally filed, does it describe the deposits being measured in the samples as "non-oxidized", and that these non-oxidized deposits are associated with a selected part of or an entire running internal combustion engine. Applicant indicates that support for the amendment to claim 35 can be found on page 3 of the specification. However, page 3 of the specification only indicates that deposits that form in an internal combustion engine are due to oxidation, and are therefore, oxidized deposits. Nowhere on page 3 of the specification does it describe the formation of "non-oxidized" deposits in an internal combustion engine.

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-4, 15-18, 24-27, 29-33 and 35 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 18, 21-22, 24, 27, 30-39 and 41-44 of copending Application No. 10/779,419. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims recite a method and a system for the high throughput screening of compositions containing additives therein which comprise providing a plurality of the additive compositions in test receptacles, measuring the formation of deposits in each sample to provide deposit formation data for each sample, and outputting the results. Both sets of claims recite that the step of measuring deposit formation comprises heating a substrate to a predetermined temperature, contacting the substrate with the sample and determining the amount of deposits formed on the substrate after a predetermined amount of time, wherein the amount of deposits are determined by weighing the substrate containing deposits thereon and comparing the determined weight with the weight of the substrate. The claims in application serial no. 10/779,419 recite that the additive compositions are fuel additive compositions rather than lubricating oil compositions containing additives therein. However, it would have been obvious to one of ordinary skill in the art to use the method recited in the claims of application serial no. 10/779,419 for screening lubricating oil compositions having additives therein since both lubricating oils and fuels

containing additives are subject to degradation over time upon storage due to the formation of deposits therein.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-4 and 17-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 20 and 22-25 of copending Application No. 10/699,529 in view of Gatto (US 2003/0171226). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims recite a high throughput method for screening lubricating oil composition samples under program control that comprise the steps of providing a plurality of different lubricating oil composition samples, each sample comprising a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive, measuring a property of each sample and outputting the results to form a library of data for the plurality of lubricating oil composition samples. The claims of application serial no. 10/699,529 recite that one of the parameters measured for the lubricating oil compositions is the sedimentation of particles in the samples. However, the claims of application serial no. 10/699,529 fail to recite that the sedimented particles are measured by heating the lubricating oil sample to a predetermined temperature in the presence of a substrate and determining the amount of deposits formed on the substrate after a period of time by determining the weight of the substrate containing deposits and comparing the determined weight with the weight of the substrate.

Gatto teaches of a method for determining the stability of a lubricant oil composition by measuring the deposits formed by the sample under high-temperature thin-film oxidation

conditions. See paragraph no. 0065 in Gatto. Gatto teaches that under oxidation conditions, lubricant oil compositions form deposits over time on a substrate. A sample of oil can be weighed onto a substrate, i.e. a carbon steel sample holder, and then immersed in a high temperature bath where air is passed over the substrate. At specific time intervals, the sample holders are removed from the high temperature bath, and the sample holders and collected deposits are weighed to determine the amount of deposit formed at the sampling interval. Results are reported as the percent of oil sample forming deposit at a specific time interval.

Based upon the combination of claims 20 and 22-25 in application serial no. 10/699,529 and Gatto, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to screen the lubricant/additive compositions in the combinatorial array taught by the claims of application serial no. 10/699,529 for deposit formation using a heated sample on a substrate since the claims of 10/699,529 recite that the plurality of samples in the array are screened for various material characteristics such as the formation of sediments (i.e. deposits) therein, and Gatto teaches that it is common to screen lubricating oil compositions for their formation of deposits by heating the sample and placing it on a substrate, wherein deposits form on the substrate over time and the amount of deposits is determined using the difference between the weight of the substrate and the weight of the substrate plus deposits formed thereon.

6. Claims 1-4, 6-9, 15-19, 24-27 and 29-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 6-7, 9-12, 14-15, 18-23, 26-27, 29-32, 34-35 and 38-45 of copending Application No. 10/699,507 in view of Gatto (US 2003/0171226). For a teaching of Gatto, see previous paragraphs. Although the conflicting claims are not identical, they are not patentably distinct from each other because both

sets of claims recite a high throughput method and system for screening lubricating oil composition samples under program control that comprise the steps of providing a plurality of different lubricating oil composition samples, each sample comprising a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive, measuring a property of each sample and outputting the results to form a library of data for the plurality of lubricating oil composition samples. The claims of application serial no. 10/699,507 recite that one of the parameters measured for the lubricating oil compositions is the sedimentation of particles in the samples. However, the claims of application serial no. 10/699,507 fail to recite that the sedimented particles are measured by heating the lubricating oil sample to a predetermined temperature in the presence of a substrate and determining the amount of deposits formed on the substrate after a period of time by determining the weight of the substrate containing deposits and comparing the determined weight with the weight of the substrate.

Based upon the combination of claims 1-3, 6-7, 9-12, 14-15, 18-23, 26-27, 29-32, 34-35 and 38-45 in application serial no. 10/699,507 and Gatto, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to screen the lubricant/additive compositions in the combinatorial array taught by the claims of application serial no. 10/699,507 for deposit formation using a heated sample on a substrate since the claims of 10/699,507 recite that the plurality of samples in the array are screened for various material characteristics such as the formation of sediments (i.e. deposits) therein, and Gatto teaches that it is common to screen lubricating oil compositions for their formation of deposits by heating the sample and placing it on a substrate, wherein deposits form on the substrate over time and the amount of deposits is

determined using the difference between the weight of the substrate and the weight of the substrate plus deposits formed thereon.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-4, 17-18, 24-27 and 29-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3, 6, 11-12, 15-18 and 20-23 of copending Application No. 10/699,508 in view of Gatto (US 2003/0171226). For a teaching of Gatto, see previous paragraphs in this Office action. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims recite a high throughput method and system for screening lubricating oil composition samples under program control that comprise the steps of providing a plurality of different lubricating oil composition samples, each sample comprising a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive, measuring a property of each sample and outputting the results to form a library of data for the plurality of lubricating oil composition samples. The claims of application serial no. 10/699,508 recite that one of the parameters measured for the lubricating oil compositions is the sedimentation of particles in the samples, wherein sample deposits are measured on a substrate over time. However, the claims of application serial no. 10/699,508 fail to recite that the sedimented particles are measured by heating the lubricating oil sample to a predetermined temperature in the presence of a substrate and determining the amount of deposits formed on the substrate after a period of time by determining the weight of the substrate containing deposits and comparing the determined weight with the weight of the substrate.

Based upon the combination of claims 1-3, 6, 11-12, 15-18 and 20-23 in application serial no. 10/699,508 and Gatto, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to screen the lubricant/additive compositions in the combinatorial array taught by the claims of application serial no. 10/699,508 for deposit formation using a heated sample on a substrate since the claims of 10/699,508 recite that the plurality of samples in the array are screened for various material characteristics such as the formation of sediments (i.e. deposits) therein formed on a substrate, and Gatto teaches that it is common to screen lubricating oil compositions for their formation of deposits by heating the sample and placing it on a substrate, wherein deposits form on the substrate over time and the amount of deposits is determined using the difference between the weight of the substrate and the weight of the substrate plus deposits formed thereon.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claim 35 is rejected under 35 U.S.C. 102(e) as being anticipated by either reference to Wollenberg et al (US 2005/0095716 or US 2005/0095717).

Both references to Wollenberg et al teach of a high throughput screening method and system for determining the storage stability and oxidation stability of a plurality of lubricating oil

compositions, wherein each of the compositions comprise a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive. The base oil is derived from either a natural or synthetic lubricating oil. The oil additives can be antioxidants, anti-wear agents, detergents, ashless dispersants etc. See paragraph no 0023 in US 2005/0095716. The lubricating oil additive can further contain a diluent oil to form an additive concentrate. The plurality of lubricating oil samples is held within transparent recesses 132 in a block 131. The recesses provide test reservoirs wherein each reservoir contains lubricating oil additive compositions or lubricating oil compositions of a different and predetermined composition, i.e. the percentage and/or type of base oil and/or additives in each composition will vary from one reservoir to another. The sample size in each reservoir is generally no more than 20 ml, 15 ml, 10ml or 5 ml. See paragraph nos. 0055-0056 in US 2005/0095716. Dispensing nozzles 113 serve to dispense the lubricating base oil and additives to the reservoirs. A robotic mechanism with programmable movement is used to move the nozzles 113 and reservoirs relative to one another. The robotic mechanism can include a slidable carriage to move the reservoirs, or can include a movable arm 351 with a grasping mechanism 352. The robotic arm is adapted to grasp an individual test receptacle 312 and move it to a position in a testing station 329 between a light source 321 and a photocell 322 so that it can be measured for sedimentation. The robotic arm also is adapted to agitate the sample. See paragraph no. 0068 in US 2005/0095716. The plurality of samples is analyzed for storage stability and oxidation data such as through measurements of sedimentation in the samples. In one embodiment, a light source 221 is disposed on one side of the frame holding the test reservoirs and a photocell 222 is disposed on the opposite side of the frame. The light transmitted through or scattered by each of

the samples in the reservoirs is measured, and the results are sent to a computer controller 230, which receives the signals as data input. The computer controller also controls movement of the samples via a signal line so that the samples are sequentially moved into a position between the light source and the photocell upon computer command. See paragraph no. 0061 in US 2005/0095716. The samples are maintained at predetermined temperatures for a predetermined time to test for the formation of sediment therein. Sedimentation tends to form a haze or floc, which increases the opacity or light scattering of the samples. A bar code 313 can be assigned to each individual test receptacle 212 and the sample contained therein. The bar code 313 is read by a standard bar code reader 325 at each measurement to ensure that the data obtained from the sedimentation measurement corresponds to the appropriate sample. Storage stability data regarding the lubricating oil compositions is stored in a database to provide a combinatorial lubricating oil composition library. See paragraph no. 0072 in US 2005/0095716.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 1-4, 15-16, 19-27 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolosov et al (US 2004/0123650, submitted in the Information Disclosure Statement filed on February 16, 2006) in view of Gatto (US 2003/0171226). For a teaching of Gatto, see previous paragraphs in this Office action.

Kolosov et al teach of a high throughput testing method and apparatus for the screening of a library of material samples. The method and apparatus involve combinatorial chemistry that refers to the synthesis of a collection of diverse materials, and the screening of the materials for desirable performance characteristics and properties. The combinatorial approach can effectively evaluate much larger numbers of diverse compounds in a much shorter period of time. The apparatus taught by Kolosov et al includes a plurality of samples supported in wells on a substrate. Kolosov et al teach that the invention can be used to screen libraries of any flowable material that may be a commercial product itself or may be a portion of a commercial product. Exemplary commercial products that can be tested with the apparatus taught by Kolosov et al include lubricants and oils. The invention can be used to analyze the resulting properties of a particular flowing material, and to analyze the relative or comparative effects that an additive has upon a particular flowable material. Additives in a flowable material to be tested include a detergent, a flow modifier, etc. See paragraph nos. 0042-0043 in Kolosov et al. The screening for the effects of different additives upon the characteristics of a flowing material is performed by measuring various properties of the material samples present in the wells on the substrate. Properties measured include the viscosity, the density, the thermal degradation, the aging characteristics, the chemical composition and the agglomeration or sedimentation of the

material samples. See paragraph no. 0065 in Kolosov et al. Once the characterizing properties of the samples are determined, the results may be mathematically combined in various combinations to provide figures of merit for the properties of interest. See paragraph no. 0066 in Kolosov et al. The sample size of each sample in the wells on the substrate is typically no greater than about 20 ml, more preferably no greater than about 5 ml, and most preferred, no greater than about 0.5 ml. See paragraph no. 0054 in Kolosov et al. To form an array of samples on the substrate, Kolosov et al teach that the samples and additives are dispensed into the wells with any suitable dispensing apparatus (i.e. an automated micropipette or capillary dispenser). The dispensing apparatus may have a heated tip, thus providing heating of the samples. Each sample is dispensed to an individually addressable region in the substrate. See paragraph no. 0053 in Kolosov et al. The plurality of samples can vary in number depending upon the intended use of the method, and the plurality of samples can form a library. A library comprises an array of two or more different samples spatially separated on a common substrate. Candidate samples within a library may differ in a definable and predefined way, such as in chemical structure, processing, mixtures of interacting components, the relative amounts of the components, the presence of additives and other reactant materials, etc. The samples are spatially separated on the substrate such that an array of samples is separately addressable for characterization thereof. The two or more samples can reside in separate containers formed as wells in a surface of a substrate or can be simply dispensed onto a common planar substrate. See paragraph no. 0057 in Kolosov et al. The apparatus taught by Kolosov et al comprises a stimulus generator 12 that applies power to a probe 14 for applying a stimulus to one or more samples 16 in the array or library of samples. The apparatus also includes a sensor or transducer 20 for monitoring a response of one or more

of the samples 16 to the stimulus. The transducer 20 and the stimulus generator 12 are both in communication with a computer sub-system 23 such as a microprocessor or other computer for manipulating data. The computer sub-system 23 may be employed to receive and store data such as responses of samples 16, material properties of samples, etc. Additionally, the computer sub-system may be employed to command other components of the system such as the stimulus generator and the dispensing means, as well as to correlate responses of samples 16 to their respective material properties. See paragraph nos. 0067-0068 in Kolosov et al. The probe 14 may be translated, rotated, reciprocated or oscillated within the samples so as to mix the samples and subject them to different forces. See paragraph no. 0070 in Kolosov et al. For contacting the probe 14 and dispensing means with the samples 16, the samples may be moved relative to the probe 14, or alternatively, the probe 14 may be moved relative to the samples 16. Combinations of these motions may also occur serially or simultaneously. An automated system may be used to move the one or more probes and the dispensing means serially or simultaneously to the various samples of a library. A suitable automated system is a robotic system such as an XYZ robot arm that has a multiple axis range of motion such as in the orthogonal X, Y, and Z coordinate axes system. This automated system is part of or in communication with the computer sub-system 23. See paragraph nos. 0073-0074 in Kolosov et al. Kolosov et al also teach that a plurality of control samples having known material properties are also monitored in the libraries along with the samples so that the responses of the samples can be compared with the known material properties of the controls. The responses of the samples in the library can be related to the known material properties by a mathematical relationship. Kolosov et al fail to teach that the lubricants containing additives therein in the combinatorial array can be screened

for deposit formation by weighing the amount of deposits formed by the compositions on a substrate over time.

Based upon the combination of Kolosov et al and Gatto, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to screen the lubricant/additive compositions in the combinatorial array taught by Kolosov et al for deposit formation by heating the compositions in the presence of a substrate since Kolosov et al teach that the plurality of samples in the array are screened for various material characteristics such as the formation of sediments (i.e. deposits) therein, and Gatto teaches that it is common to screen lubricating oil compositions for their formation of deposits by heating the sample and placing it on a substrate, wherein deposits form on the substrate over time and the amount of deposits is determined using the difference between the weight of the substrate and the weight of the substrate plus deposits formed thereon.

13. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolosov et al in view of Gatto, as applied to claims 1-04, 15-16, 19-27 and 31-33 above, and further in view of Tolvanen et al (US Patent no. 5,715,046). For a teaching of Kolosov et al and Gatto, see previous paragraphs in this Office action. Kolosov et al fail to teach that the sediments or deposits that form in the plurality of lubricating oil compositions present in the combinatorial array can be measured by determining light scattering or transmission through the samples.

Tolvanen et al teach that the stability of lubricating oil compositions can be determined by measuring the intensity of light scattering from the oil sample surface. The light scattering measurement serves to detect agglomerated particles (i.e. deposits) in the sample. See lines 1-4 and 52-65 in column 2 of Tolvanen et al.

Based upon a combination of Kolosov et al, Gatto and Tolvanen et al, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to screen the lubricant/additive compositions in the combinatorial array taught by Kolosov et al by optically measuring the formation of sediments in each of the samples with light scattering since Kolosov et al teach that the plurality of samples in the array are screened for various material characteristics such as the formation of deposits therein, and Tolvanen et al teach that the measurement of light scatter in an oil sample can be efficiently used to measure the stability of the oil sample by detecting agglomerated particles (i.e. deposits) therein.

14. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolosov et al in view of Gatto as applied to claims 1-4, 15-16, 19-27 and 31-33 above, and further in view of Smrcka et al (EP 1,233,361). For a teaching of Kolosov et al and Gatto, see previous paragraphs in this Office action. Kolosov et al fail to teach that the results of testing the plurality of lubricating oil compositions can be stored in a data carrier or transmitted to a remote location.

Smrcka et al teach of a system and method for managing information pertaining to new product development. The method comprises the steps of testing a new chemical product, and storing the results in a data carrier such as a computer readable medium. All the data obtained through testing of a chemical product is stored in a central database. Remote access to the database is available globally from any personal computer having suitable client software installed and suitable network connectivity. See paragraph nos. 0011 and 0038 in Smrcka et al.

Based upon the combination of Kolosov et al, Gatto and Smrcka et al, it would have been obvious to one of ordinary skill in the art to store the results of testing the plurality of lubricating oil compositions taught by Kolosov et al in a data carrier that is available from a remote access

site since Smrcka et al teach that it is advantageous to store the results of testing for products being newly developed on a computer readable data carrier that is available from a remote access site in order to share and disseminate the information concerning the new product to anyone in the world researching that product.

15. Claims 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolosov et al in view of Gatto as applied to claims 1-4, 15-16, 19-27 and 31-33 above, and further in view of Garr et al (US Patent no. 5,993,662). For a teaching of Kolosov et al and Gatto, see previous paragraphs in this Office action. Kolosov et al fail to teach that each of the individual test containers that hold the lubricant samples have a bar code attached thereto.

Garr et al teach that it is common in a combinatorial library of reaction products arranged in an array to have each individual reaction container identified by a unique code such as a bar code, which is optically readable. The code can also be stored in the memory of a digital signal processor on a database. See lines 3-10 in column 4 of Garr et al.

Based upon the combination of Kolosov et al, Gatto and Garr et al, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to label each of the individual test containers in the combinatorial array taught by Kolosov et al with a bar code since Garr et al teach that it is common in the combinatorial library art to uniquely label individual members of the library with a bar code so as to be able to identify and distinguish the samples and their unique characteristics from one another.

16. Claims 11-14 are allowable over the prior art of record since none of the prior art of record teaches or fairly suggests a method for screening a combinatorial array of lubricating oil/additive compositions for deposit formation by either heating a substrate to a first

predetermined temperature and each of the samples to a second predetermined temperature, contacting the substrate with the samples and determining the amount of deposits formed on the substrate after a predetermined period of time, or by heating one end of a substrate to a first predetermined temperature and the opposite end to a second predetermined temperature, contacting the substrate with each of the samples in the array and determining the temperature at which deposits are formed on the substrate.

17. Applicant's arguments filed April 2, 2007 have been fully considered but they are not persuasive.

The previous objection to the abstract made in the last Office action mailed on November 29, 2006 has been withdrawn in view of the amendments made to the abstract. The previous rejection of the claims under 35 USC 112, second paragraph has also been withdrawn in view of the amendments made to the claims. The provisional rejection of the claims on the grounds of nonstatutory obviousness-type double patenting over claims in application serial no. 10/779,419 is maintained for the reasons stated in the rejection and since Applicant has not filed terminal disclaimer over the cited application

Applicant argues the provisional rejection of the claims on the grounds of nonstatutory obviousness-type double patenting over claims in application serial nos. 10/699,529, 10/699,507 and 10/699,508 by stating that each of these applications has been published as a US publication reference. Each of the publications based on these applications qualifies as prior art for the instant application under 35 USC 102(e). Applicant argues that because each of these publications and the instant application were subject to an obligation of assignment to Chevron Oronite Company, LLC, at the time the present invention was made, that the provisional

obviousness-type double patenting rejections over each of these applications in view of Gatto should be withdrawn in accordance with 35 USC 103 (c). Applicant's argument is not persuasive since 35 USC 103(c) applies only to art **usable in an obviousness rejection under 35 USC 103.** Double patenting rejections, based on subject matter now disqualified as prior art in 35 USC 103(c), are still appropriate. See MPEP 706.02(l)(1), 37 CFR 1.78(c) and MPEP 804. The practice of rejecting claims on the ground of double patenting in commonly owned applications of different inventive entities is in accordance with existing case law and prevents an organization from obtaining two or more patents with different expiration dates covering nearly identical subject matter. Obviousness-type double patenting rejections can only be overcome by disclaiming, pursuant to the existing provisions of 37 CFR 1.321, the terminal portion of the term of the later patent and including in the disclaimer a provision that the patent shall be enforceable only for and during the period the patent is commonly owned with the application or patent which formed the basis for the rejection, thereby eliminating the problem of extending patent life.

Applicant argues the previous rejection of the claims under 35 USC 102(e) as being anticipated by either reference to Wollenberg et al by stating that each of these references fail to disclose measuring non-oxidized deposit formation that is associated with a selected part of or an entire running internal combustion engine. In response to this argument, it is first noted that these new limitations in claim 35 represent new matter, as indicated in paragraph no. 2 above. In addition, both Wollenberg et al references involve lubricating oil compositions used in internal combustion engines similar to the compositions recited in claim 35, and the formation of non-oxidized deposits in the lubricating oil compositions taught by the Wollenberg et al references

would occur to the same extent as in the instant invention. However, the evidence provided by Applicant on page 3 of the instant application and in the LUBRICANT ADDITIVES document only shows that deposits form in lubricating oil compositions due to oxidation, not due to non-oxidizing conditions. Therefore, it is not clear how "non-oxidizing deposits" can form in the first place since the specification provides no description of this. The only description provided by the specification is the formation of deposits under oxidizing conditions.

Applicant also argues that claim 35 defines over Wollenberg et al '716 since Wollenberg et al '716 discloses a high throughput screening method for determining the storage stability of a lubricating oil composition in order to determine the shelf life of the composition, whereas in instant claim 35, the deposit formation measurement in a lubricating oil composition is used to determine non-oxidized deposits that are associated with a selected part of an entire running internal combustion engine. Applicant also argues that claim 35 defines over Wollenberg et al '717 since Wollenberg et al '717 teach of measuring the oxygen stability of a lubricating oil composition, and oxygen stability measurements are different than deposit formation measurements since oxidation inhibitors intercept the oxidation mechanism while dispersants and detergents serve to suspend harmful products in a bulk lubricant. In response to these arguments, it is noted that both references to Wollenberg et al teach of high throughput systems and methods for screening lubricating oil composition samples that comprise a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive such as a detergent or an ashless dispersant therein. Both of these references also teach of measuring the formation of deposits of each sample on a substrate over time, and outputting the results. See paragraph no. 0060 and 0063 in US 2005/0095716 and paragraph nos. 0066-

0067 in US 2005/0095717. With regards to claim 35 and Wollenberg et al ('716), it is noted that the storage stability of a lubricating oil composition taught by Wollenberg et al '716 is measured by determining the formation of sediments or deposits in the sample over time, which causes haze or floc in the sample. The measurement of the haze or floc in the samples taught by Wollenberg et al '716 is the same as the step of "measuring deposit formation of each sample to provide deposit formation data for each sample", as recited in instant claim 35. The different uses of the methods taught by Wollenberg '716 and the instant invention do not patentably distinguish the methods from one another since the steps are exactly the same, as outlined above in the rejection of claim 35 under 35 USC 102(e) as being anticipated by Wollenberg et al '716. With regards to claim 35 and Wollenberg et al '717, it is noted that the oxidation stability measurement taught by Wollenberg et al '717 is the same as the deposit formation recited in claim 35 since Wollenberg et al '717 measure the oxidation stability of a lubricating oil by measuring the formation of deposits on an inner wall of a tube which holds the sample. See paragraph 0067 in Wollenberg et al '717. Wollenberg et al '717 also teach that the additive in the oil samples analyzed can be a detergent (see paragraph 0043) or an ashless dispersant (see paragraph no. 0047), as recited in instant claim 35. Therefore, the method steps taught by Wollenberg et al '717 are the same as the method steps recited in instant claim 35. The passage cited by Applicant from "Lubricant Additives" only indicates that oxidation inhibitors intercept the oxidation mechanism that causes deposits to form in a lubricating oil, and Wollenberg et al '717 clearly teach that oxidation of a lubricant oil causes deposits to form in the sample. The method of Wollenberg et al '717 does not serve to measure oxidation inhibitors in a lubricating oil sample, and the method recited in instant claim 35 does not serve to measure deposit control

agents. Rather, both methods measure the formation of deposits from a lubricating oil sample on a substrate that is caused by the oxidation of the sample over storage time.

The previous rejection of claim 35 as being anticipated by Kolosov under 35 USC 102(e) has been withdrawn in view of the amendments made to claim 35. However, the amendments to claim 35 present new matter, as outlined above in paragraph no. 2, and if this new matter were to be removed from claim 35, then the rejection under 35 USC 102(e) as being anticipated by Kolosov would be reinstated.

The previous rejection of the claims under 35 USC 103 as being obvious over either reference to Wollenberg et al ('716 and '717) in view of Gatto has been withdrawn in view of Applicant's statement of common ownership between the Wollenberg et al publications and the instant application at the time the instant invention was made, in accordance with 35 USC 103 (c).

Applicant argues the rejection of the claims under 35 USC 103 as being obvious over Kolosov et al in view of Gatto by stating that the reference to Kolosov et al fails to teach a high throughput system and method for screening lubricating oil compositions, under program control, wherein the oil compositions specifically comprise a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive. Applicant specifically argues that it is not inherent that a lubricating oil composition has to contain a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive. However, an additive, by definition, means any substance incorporated into a base material, usually in a low concentration, to perform a specific function (i.e. a stabilizer, a preservative, dispersing agent, antioxidant, etc.). Since Kolosov et al teach that a

lubricant oil can be analyzed having an additive therein as one of the embodiments of the invention (see paragraph nos. 0042-0043 of Kolosov et al), and one embodiment of an additive in a composition is a substance incorporated into a base material in a low concentration, the teaching of Kolosov et al renders obvious the recitation of a major amount of at least one base oil of lubricating viscosity and a minor amount of at least one lubricating oil additive.

Applicant argues that Kolosov et al do not teach of the steps of measuring the deposit formation of each sample comprising heating the sample in the presence of a substrate and determining the amount of deposits formed on the substrate by determining the weight of the substrate containing deposits and comparing the determined weight with the weight of the substrate to provide deposit formation data for each sample, as recited in instant claims 1 and 24. In response to this argument, it is first noted that if the reference to Kolosov et al taught each of these limitations, then it would have been applied against claims 1 and 24 under 35 USC 102 as anticipating these claims. However, as noted in the rejection, since Kolosov et al fail to teach measuring deposits formed in a lubricating oil sample over time on a substrate by measuring the weight of the substrate and deposits, the reference to Kolosov et al is applied against the claims under 35 USC 103 in combination with Gatto et al. The reference to Kolosov et al does teach of a high throughput system and method for screening lubricating oil compositions since the entire disclosure of Kolosov et al must be considered, even non-preferred embodiments. Kolosov et al teach of the general analysis of a large number of diverse compounds and that the compounds analyzed can be lubricants having an additive therein. See paragraph nos. 0042-0043 in Kolosov et al. Different lubricant compositions having additives therein are contained within test receptacles in an array or combinatorial library. Each of the test receptacles taught by Kolosov

et al can contain a different lubricant composition since Kolosov et al teach that the candidate samples in a combinatorial array or library can differ from one another in a definable and predefined way, such as the amounts of components included within the composition, the types of additives included within the composition, etc. See paragraph no. 0061 in Kolosov et al. Kolosov et al also teach of measuring stability parameters of the different lubricant compositions such as thermal degradation parameters, aging characteristics and sedimentation of samples. See paragraph no. 0065 in Kolosov et al. Although a large number of different types of flowable samples are taught by Kolosov et al as being analyzed in a high throughput manner in a combinatorial library by measuring many different parameters, the fact remains that the disclosure of Kolosov et al does teach of the analysis of lubricant compositions having additives therein in a high throughput manner by placing many different types of the lubricant compositions in a plurality of receptacles, automatically moving the receptacles to locations for measurement of parameters and measuring many different parameters of the samples including those associated with the long-term stability of the compositions.

Appellants argue the rejection of the claims under 35 USC 103 as being obvious over the references to Kolosov et al and Gatto by stating that nowhere does Kolosov et al disclose or suggest the high throughput method of lubricant screening as recited in the instant claims, and that nothing in Kolosov et al would lead one skilled in the art to modify the system and method for testing the genera of flowable material with any of the broad tests disclosed therein and arrive at the specifically recited high throughput method for screening lubricating oil additive compositions as recited in the instant claims. In response to this argument, it is again noted that the entire disclosure of a reference is considered prior art. Therefore, since Kolosov et al

disclose the analysis of lubricant compositions having additives therein as one of the flowable materials by measuring stability parameters such as thermal degradation, aging characteristics, viscosity and sedimentation of particles in the compositions in a high throughput combinatorial library format, one skilled in the art would be motivated to perform the method and apparatus as recited in the instant claims. The primary reference to Kolosov et al does teach of a high throughput method for screening lubricating oil additive compositions under program control since Kolosov et al employ the use of combinatorial chemistry and arrays for analyzing the material properties of flowable materials such as lubricants, and such combinatorial technology is "high-throughput". See paragraph no. 0004 where combinatorial chemistry is referred to as a "high-throughput synthesis and screening methodology", and paragraph no. 0023 where Kolosov et al state that the invention refers to "a materials characterization system that can operate as a high throughput screen in a materials science research program directed to identifying, characterizing or optimizing new or existing materials". The system and method taught by Kolosov et al is clearly automated as depicted in Figure 3 since it includes automatic means for moving the samples to parameter testing stations or moving parameter measuring means to the different samples held in wells on a substrate. See paragraph nos. 0073, 0074 and 0089 in Kolosov et al that refer to an automatic apparatus 112 including a robot arm and an XYZ movable system.

Applicant argues that the reference to Gatto fails to cure the deficiencies of Kolosov et al since Gatto does not teach of a high throughput method for screening lubricating oil additive compositions, but rather discloses non-automatic means for measuring organomolybdenum compositions. Applicant argues that since the method taught by Gatto is a non-automated test,

and Gatto does not teach of the automatic, high-throughput method under program control as recited in the instant claims, there is no motivation or suggestion to combine the teachings of Kolosov et al and Gatto. In response to these arguments, it is noted that the primary reference to Kolosov et al teaches of an automated high throughout screening method and apparatus for screening a plurality of lubricant compositions, as noted above. Kolosov et al teach of an automatic method for measuring a material characteristic in a plurality of samples, wherein the material characteristic can be the measurement of sediments or deposits therein, and teach that the samples can be lubricating oils containing additives. The reference to Gatto is used as a secondary teaching of the obviousness of measuring the stability of lubricant compositions containing additives therein by determining the oxidation stability of the composition with a measurement of the deposits formed by the composition on a substrate under high-temperature thin-film oxidation conditions. See paragraph no. 0065 in Gatto. Based upon the combination of Kolosov et al and Gatto, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to screen the lubricant/additive compositions in the combinatorial array taught by Kolosov et al for deposit formation by heating the compositions in the presence of a substrate since Kolosov et al teach that the plurality of samples in the array are screened for various material characteristics such as the formation of sediments (i.e. deposits) therein, and Gatto teaches that it is common to screen lubricating oil compositions for their formation of deposits by heating the sample and placing it on a substrate, wherein deposits form on the substrate over time and the amount of deposits is determined using the difference between the weight of the substrate and the weight of the substrate plus deposits formed thereon.

Applicant argues that the reference to Tolvanen et al fails to cure the deficiencies of Kolosov et al since Tolvanen et al do not teach of a high throughput method for screening lubricating oil additive compositions, but rather, disclose measuring the stability of an oil by adding a flocculating agent to the oil and measuring the intensity of light scattering from the oil surface. In response to this argument, it is noted that the primary reference to Kolosov et al teaches of a high throughout, automatic screening method and apparatus for screening a plurality of lubricant compositions, as noted above. The reference to Tolvanen et al is used as a secondary teaching of the obviousness of determining the stability of lubricant oil compositions by measuring the intensity of light scattering from the oil sample surface. Based upon a combination of Kolosov et al and Tolvanen et al, it would have been obvious to one of ordinary skill in the art at the time of the instant invention to screen the lubricant/additive compositions in the combinatorial array taught by Kolosov et al for storage stability by optically measuring the formation of sediments in each of the samples since Kolosov et al teach that the plurality of samples in the array are screened for various material characteristics including the formation of sediments therein, and Tolvanen et al teach that it is common to screen lubricating oil compositions for their storage stability based upon the amount of sediment that forms in the samples over a predetermined time period at a certain temperature. It also would have been obvious to one of ordinary skill in the art to use optical light scattering as a means for measuring sediment formation in the plurality of lubricating oil compositions present in the array of Kolosov et al since Tolvanen et al teach that the measurement of light scatter in an oil sample can be efficiently used to measure the stability of the oil sample by detecting agglomerated particles therein.

Applicant argues that the secondary references to Smrcka and Garr et al fail to cure the deficiencies of Kolosov et al. In response to this argument, it is noted that the teachings of the primary reference to Kolosov et al have been explained in detail above, and the secondary references to Smrcka and Garr et al have been applied for their secondary teachings of storing results on a data carrier and using a bar code to identify an individual container in a plurality of containers. Reasons for combining Kolosov et al with the secondary references to Smrcka and Garr et al can be found in the rejections set forth above.

For all of the above reasons, Applicant's arguments are not found persuasive.

18. Applicant is informed that the references listed on the Information Disclosure Statement filed on December 8, 2006 have been crossed out since these same references were already considered and made of record on the PTO-892 formed attached to the Office action mailed on May 15, 2006.

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen M. Wallenhorst whose telephone number is 571-272-1266. The examiner can normally be reached on Monday-Thursday from 6:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden, can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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June 14, 2007

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